

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 16 MAR 2006

WIPO

PCT

To:
SEMICONDUCTOR ENERGY LABORATORY
CO., LTD.

398, Hase, Atsugi -shi, Kanagawa
2430036 Japan

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43 bis.1)

Date of mailing (day/month/year)	14.03.2006
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Applicant's or agent's file reference
00000PCT8407

FOR FURTHER ACTION

See paragraph 2 below

International application No.
PCT/JP2005/022608

International filing date (day/month/year)
02.12.2005

Priority date (day/month/year)
06.12.2004

International Patent Classification (IPC) or both national classification and IPC

Int.Cl. G09F9/30 (2006.01), H01L21/3205 (2006.01), H01L29/786 (2006.01), H01L51/50 (2006.01)

Applicant

SEMICONDUCTOR ENERGY LABORATORY CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Date of completion of this opinion

06.03.2006

Name and mailing address of the ISA/JP

Japan Patent Office

3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan

Authorized officer

HATAE Susumu

Telephone No. +81-3-3581-1101 Ext. 3226

2G 9508

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/022608

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of:
☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ on paper
☐ in electronic form
 - c. time of filing/furnishing
☐ contained in the international application as filed
☐ filed together with the international application in electronic form
☐ furnished subsequently to this Authority for the purposes of search
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/022608

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has, within the applicable time limit:

- ☐ paid additional fees
- ☐ paid additional fees under protest and, where applicable, the protest fee
- ☐ paid additional fees under protest but the applicable protest fee was not paid
- ☒ not paid additional fees

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is

- ☐ complied with
- ☒ not complied with for the following reasons:

Claim 2 does not include a process for manufacture of insulating thin film in a portion under at least one of the plurality of source signal lines, the plurality of gate signal lines, the plurality of power supply lines in column, and the plurality of power supply lines in series, which is a special technical feature in claim 1. Thus, claim 2 is not considered to be a process specially adopted for the manufacture of the display device of claim 1. There is no unity between claims 1 and 2.

4. Consequently, this opinion has been established in respect of the following parts of the international application:

- ☐ all parts
- ☒ the parts relating to claims Nos. 1, 3-5

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/022608

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1, 3-5	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1, 3-5	NO
Industrial applicability (IA)	Claims	1, 3-5	YES
	Claims		NO

2. Citations and explanations:

D1: JP 5-35207 A (Fuji Xerox CO., Ltd.) 1993.02.12
D2: WO 98/36407 A1 (SEIKO EPSON CO.) 1998.08.20
D3: JP 2001-53287 A (Semiconductor Energy Laboratory CO.) 2001.02.23,
D4: JP 2003-177682 A (KONICA CO.) 2003.06.27

Claims 1, 4, 5

The subject matter of claims 1, 4 and 5 do not appear to involve an inventive step in view of the D1, D2 and D3.

D1 discloses matrix EL display device including switching signal lines Y, information signal lines X, power drive lines Z in column and row, EL light emitting elements C_{EL} , first switching elements Q_w and second switching elements Q_a (see [0018], [0023] and figs 1, 3).

D2 discloses display device including data lines "sig", scanning signal lines "gate", capacitor lines "cline" (corresponding to power supply lines in series), common power supply lines "com" (corresponding to power supply lines in column), luminescent elements 40, first TFTs 20 and second TFTs 30 (see pages 15-16 and fig 2). D2 also discloses a method of forming scanning signal lines by sputtering method (see page 23).

D3 discloses second interlayer insulating films which are selectively disposed only at the region where the gate electrode and the second wirings overlap with each other (see [0034] - [0036], Figures 5, 7, 8).

It would be obvious for the person skilled in the art to apply second interlayer insulating films in D3 to display device in D1 or D2.

Claim 3

The subject matter of claim 3 does not appear to involve an inventive step in view of the D1, D2, D3 and D4.

D4 discloses a method of forming insulating layers by ink jet method (see [0022]). It would be obvious for the person skilled in the art to form second interlayer insulating films in D3 by ink jet method according to D4.

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- ☐ complied with
 - ☒ not complied with for the following reasons:

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International application No.

PCT/JP2005/022608

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1, 3-5	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1, 3-5	NO
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	Claims		NO

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It would be obvious for the person skilled in the art to apply second interlayer insulating films in D3 to display device in D1 or D2.

Claim 3

The subject matter of claim 3 does not appear to involve an inventive step in view of the D1, D2, D3 and D4.

D4 discloses a method of forming insulating layers by ink jet method (see [0022]). It would be obvious for the person skilled in the art to form second interlayer insulating films in D3 by ink jet method according to D4.